

REMARKS

Claims 41-45 stand objected to as incorrectly depending from cancelled claim 32. Claims 41, 42, 43 and 45 have been amended to depend from claim 26 in order to obviate the objection.

Claims 1-3, 5-9, 12-20 and 54 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Pat. No. 5,815,579 to Boyden. The applicant respectfully traverses the rejection for the following reasons.

Claim 1 requires a duct with a particular widthwise to heightwise dimensional relationship of not more than three to one. The Examiner acknowledges that Boyden fails to teach this claimed relationship. However, the Examiner finds that because Boyden allows the dimensions of the speaker system to be varied in the embodiments shown in Figs. 1-15 of Boyden, and that "it is known to construct speaker systems of any suitable dimensional ratio, such as three to one, for obtaining a desirable placement of the system and the promotion of comfort and fit to the user", the claimed invention would have been obvious. This analysis is problematic.

The Examiner has no support for her statement of motivation. Where is it "known to construct speaker systems of any suitable dimensional ratio, such as three to one, for obtaining a desirable placement of the system and the promotion of comfort and fit to the user?" Boyden, according to measurements made on the paper patent, teaches

no less than an approximately five to one ratio (Fig. 5) and up to an approximately twenty to one ratio (Figs. 6-8), significantly larger ratios than the outer bounds of the ratio claimed. Boyden does not support any ratio, and certainly no art is cited for the proposition that "any suitable dimensional ratio" can be used in speaker systems for garments. No other art is cited for audio ducts of different dimensions within a garment.

The ratios of Boyden and the claimed invention are so different because Boyden teaches a low profile design, whereas the claimed invention seeks a duct with significant cross-sectional area to enhance audio properties. Furthermore, there is no indication in Boyden that the widthwise to heightwise dimension has relevance to comfort and fit. Moreover, even if such were indicated, the ducts in accord with larger ratios (as shown by Boyden) are adapted to more closely fit the user. The claimed ratio is contrary to such teaching, with low ratios (e.g., one to one round cross-section, and up to maximum of three to one) which would not conform as well to the user compared to Boyden and thus fail to be satisfied by the Examiner's stated motivation. Thus, Boyden and the prior art as whole fail to teach or suggest the desirability of the claimed dimensional restriction on the duct. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In view of the above, claim 1 is not obvious over Boyden.

Referring to claim 2, the Examiner states that Boyden discloses the first duct is adapted to flex without pinching off the first duct chamber. There is no indication in Fig. 2 whether the embodiment shown in curved or flexed. Further, neither of the textual

references provided by the Examiner are at all related to the claimed limitation. Nowhere does Boyden show or suggest that any of his disclosed embodiments can be flexed without pinching the chamber. Thus, the Examiner has failed to make out a prima facie rejection of claim 2 as well.

Referring to claims 3 and 9, the Examiner acknowledges that the first duct does not have a substantially round cross-section. However, the Examiner states that Boyden teaches adding filler and takes official notice that it is known to include enough filler for insulation purposes such that a round cross-section is produced, and finds in view thereof that the invention would have been obvious. The applicant respectfully traverses this conclusion.

There is no teaching or suggestion to include filler for insulation purposes in the Boyden ducts. Moreover, while it may be known to provide garments with insulation for warmth, such is not taught or suggested with respect to a duct in communication with a sound transducer. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, the applicant is not aware of garment ducts which are filled with insulation so as to provide a "round cross-section". Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. MPEP 2144.03(A). If the Examiner maintains the

rejection, the applicant respectfully requests the Examiner provide a reference showing garment ducts filled with insulation so as to provide a "round cross-section."

Claim 12 requires that the first duct have a cross-sectional area substantially smaller than the second duct. Boyden teaches that the duct may be provided with some filler. The Examiner takes official notice that it is known to include "varying amounts of filler, such that different cross-sections are produced, for changing the damping of one enclosed speaker relative to the other." The applicant respectfully traverses this rejection for the following reasons. First, Boyden is quite clear that where two ducts are provided, the ducts are of like dimension. It is not evident how ducts of different sizes would adequately be incorporated into the Boyden design. Second, the applicant traverses the official notice taken here. The information of which the Examiner takes official notice is highly specialized. This is not the type of commonly known information of which official notice can properly be taken, and if the Examiner maintains the rejection a reference supporting the assertion is respectfully requested in accord with MPEP 2144.03.

Claim 14 requires a covering over the second duct. The Examiner again takes official notice, this time stating that it is known to include coverings to protect the transducer from debris and moisture. Again, the applicant respectfully traverses this rejection. The claimed duct is not the same as the transducer. While it may be known to protect transducers (and no admission is made thereto), the claim specifically requires a covering for the duct, and the Examiner has not addressed the limitation.

Claim 15 requires "first and second securing rings detachably coupled to said garment." The Examiner once again takes official notice, this time that "it would have been obvious to one of ordinary skill in the art at the time the invention was [made] to include first and second securing rings at the first and second duct respectively, for reinforcing the location where a component would be attached to prevent tearing of the garment." The applicant respectfully traverses this rejection for several reasons. First, official notice can only be taken of facts. However, the Examiner has taken official notice "that it would have been obvious . . ." which is a conclusion of law and is not the proper subject matter of official notice. Second, the Examiner is failing to give proper weight to all the words in the claim, as the claim requires that the securing rings be "detachably coupled" so that the ducts and sound transducers can be removed and reattached to the garment, as desired. The Examiner's stated motivation for the securing rings, which is "reinforcement" teaches away from this claimed feature. Thus, the Examiner has failed to make out a prima facie rejection of claim 15.

At this point, the applicant wishes to note that throughout the above handled rejections and some of the rejections which follow, the Examiner has attempted to make prima facie cases of obviousness by heavy reliance on official notice. The Examiner is reminded that, in accord with MPEP 2144.03:

In limited circumstances, it is appropriate for an examiner to take official notice of facts not in the record or to rely on "common knowledge" in making a rejection, however such rejections should be judiciously applied. (emphasis added)

It is inappropriate for the Examiner to use the Boyden reference, which fails to teach or suggest the claims, in combination with official notice of ostensible facts or legal conclusions as a replacement for making a proper prima facie case of obviousness using documented prior art.

Claim 54 requires a *modular* speaker personal wearable speaker system attachable to a garment, the system including ducts and sound transducers, wherein "said ducts are adapted to be interchangeably coupled to the garment, and said transducers are adapted to be interchangeably coupled to said ducts." In Boyden the transducers are fixed within a respective enclosure, regardless of the embodiment described by Boyden. Clearly, the transducers are not *interchangeably* coupled to the ducts, and no suggestion therefor is provided in Boyden. Moreover, even though Boyden teaches several alternate embodiments each with different transducer configurations, such is not any teaching or suggestion for a modular configuration with interchangeable transducers. In Boyden, all the embodiments have static transducer configurations.

For the reasons advanced above, claims 1-3, 5-9, 12-20 and 54 are not obvious in view of Boyden.

Claims 4, 10-11, 26-31, 33-34, 36-38, 41-45 stand rejected under 35 U.S.C. § 103(a) over Boyden in view of U.S. Pat. No. 4,322,585 to Liautaud. The applicant respectfully traverses the Examiner's rejection for the following reasons.

First, claims 4, 10-11 are allowable for their dependency on claim 1.

Second, claims 10, 11, 26, and 29 require sound transducers facing inward toward the torso of the body. Boyden fails to teach this limitation. The Examiner states that Liautaud teaches facing sound transducers inward toward the body of the wearer for promoting mechanical sound transmission. The applicant traverses the rejection for the following reasons. In Liautaud the speaker units 16 (i.e., enclosures of speaker 24) are positioned on the shoulders (Fig. 1) or at the inside collar of a shirt (Fig. 7, col. 3, line 14). In the latter arrangement, the units 16 are contacted against bone to promote mechanical sound transmission; however as seen Figs. 3 and 6, the transducers face outward (towards the ears) and not inward toward the torso. Thus, in no embodiment and in accord with no teaching of Liautaud are speakers 24 directed toward a torso of the body as claimed. Further, there is no suggestion to direct the speaker in accord with the claimed limitation.

Third, claim 26, additionally requires, in substance, two ducts with transducers at each end. This is not taught or suggested by Boyden or Liautaud, alone or in combination.

Fourth, claims 28 and 34 are also allowable for the reasons advanced above with respect to claims 3 and 9; claim 37 is also allowable for the reasons advanced above with respect to claim 12; and claim 42 is also allowable for the reasons advanced above with respect to claim 15.

For the foregoing reasons, claims 4, 10-11, 26-31, 33-34, 36-38, 41-45 are not obvious in view of the cited art.

In light of all of the above, it is submitted that the claims are in order for allowance; and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,



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